

REMARKS

The Applicant appreciates the Examiner's careful examination of this case. Reconsideration and re-examination are respectfully requested in view of the instant remarks.

With regard to page 1 of the Office Action, the Applicant notes that claims 1 - 10 and 12 - 21 are rejected. The Applicant also notes that all of the certified copies of the Priority Documents have been received.

At the top of page 2 of the Office Action, the Examiner has rejected claim 18 as being indefinite. The term objected to by the Examiner at claim 18 line 2 has been amended. More specifically, the reference to "the foam" has been altered to "the filter".

In the bottom part of page 2 of the Office Action, the Examiner has rejected claims 1, 2, 4, 7, 9, 10 and 12 - 17 as being anticipated by Swanson et al (U.S. Patent No. 5,679,251 - hereinafter "Swanson"). In view of the Swanson reference, claim 1 has been amended to specify that the filter material comprises activated carbon for removing the mutagens and a retainer material for retaining the activated carbon in place, that the activated carbon is activated particulate carbon, and that the activated particulate carbon is separate from and not integrally formed with the retainer material. This is in direct contrast to the disclosure in Swanson where the filter comprises a filter cartridge having activated carbon paper. The activated carbon paper is made of a cellulose paper impregnated with about 50% of activated carbon powder by weight. Thus

In Swanson, the retainer material for retaining the activated carbon powder in place is the cellulose paper. However, in Swanson, the carbon powder is impregnated into the cellulose paper so that the Swanson carbon powder is integrally formed with the cellulose paper, and is not separate from the cellulose paper. This is completely different from the Applicant's amended claim 1 wherein the activated particulate carbon is specified as being separate from and not integrally formed with the retainer material.

The Applicant's construction of having the activated particulate carbon separate from and not integrally formed with the retainer material has a number of advantages as compared with Swanson. More specifically, the Swanson construction is such that only a relatively small amount of the activated carbon powder is able to be impregnated into the paper. With the Applicant's construction, much more of the activated particulate carbon can be used. With the Applicant's construction, the activated particulate carbon can be sandwiched between turns of the retainer material to cause the activated particulate carbon to form a filter bed of any desired thickness. In use, when the oil passes through the filter, the oil causes the activated particulate carbon to form a viscous filter bed for removing the mutagens from the oil. The Applicant's construction as specified in the amended claim 1 would therefore filter mutagens much better than the Swanson construction.

Also, with the Applicant's construction, substantially the entire surface of the activated particulate carbon is available for operation as a working filter surface. With the Swanson construction, the impregnation of the carbon powder into the cellulose paper causes the individual carbon powder particles

to lose much of their surface area because much of the surface area is imbedded in the cellulose paper. Only the outer non-imbedded surface of the Swanson activated carbon powder is available for contact with the oil and thereby available for removing the mutagens. Thus again the Applicant's construction operates much more efficiently than the Swanson construction.

Insofar as the Examiner has rejected claims 2, 4, 7, 9, 10 and 12 - 17 over Swanson, it is noted that claim 4 has been cancelled because the subject matter of claim 4 has been put into the amended claim 1. For the remaining claims 2, 7, 9, 10 and 12 - 17, the Applicant relies for patentability of these claims on the fact that they include all of the features of the amended claim 1, and the amended claim 1 is believed to be allowable for the reasons specified above.

At the top of page 3 of the Office Action, the Examiner has rejected claim 3 as unpatentable over Swanson. The Examiner says that it would have been obvious to one of ordinary skill in the art to use the specified particle size of 44 micron activated carbon. The Applicant respectfully disagrees with this. More specifically, the basic Swanson teaching is of the activated carbon being in the form of a powder. Thus the basic Swanson teaching is that the activated carbon is of a small particle size. However, if the particle size of the activated carbon is too small so that it becomes like a powder, then handling problems can arise as specified in the Applicant's patent specification at page 3 lines 7 - 12. The powder can become like dust and it is difficult to handle, and health and safety problems may then arise. The use of 44 micron size activated

carbon avoids these problems. In addition, the Applicant relies for patentability of claim 3 on the fact that claim 3 includes all of the features of claim 1, and claim 1 is believed to be allowable for the reasons specified above.

In the bottom part of page 3 of the Office Action, the Examiner has rejected claims 5, 6, 8 and 18 as being unpatentable over Swanson in view of the Applicant's admitted prior art. The Examiner says that it would have been obvious to one of ordinary skill in the art to substitute the admittedly known filtration material for the retainer material, (i.e. paper of Swanson). It needs to be borne in mind that claim 1 has now been restricted to specify that the activated particulate carbon is separate from and not integrally formed with the retainer material. This is completely different from Swanson where the activated carbon is impregnated into the retainer material (i.e. paper). Thus, the comparison of the admittedly known filtration material with the Swanson paper retainer material is not an entirely straight forward substitution because the Swanson retainer material has to be such that it can be impregnated by the activated carbon, whereas the Applicant's retainer material has to be such that it can retain the activated carbon in place, but the activated carbon is not impregnated into the retainer material and instead is separate from and not integrally formed with the retainer material. In addition, the Applicant relies for patentability of claims 5, 6, 8 and 18 on the fact that these claims include all of the features of the amended claim 1, and the amended claim 1 is believed to be allowable for the reasons specified above.

At the top of page 4 of the Office Action, the Examiner has rejected claims 19 and 20 as unpatentable over Swanson in view of Semar (US Patent

No. 5, 589,059). The Applicant relies for patentability of claims 19 and 20 on the fact that these claims include all of the features of the amended claim 1. Thus if Swanson and Semar are combined together, they do not provide the features required by claims 19 and 20.

In the middle of page 4 of the Office Action, the Examiner has rejected claim 21 as being unpatentable over Swanson in view of Brownawell et al (US Patent No. 5,069,799 - hereinafter "Brownawell"). The Applicant relies for patentability of claim 21 on the fact that this claim includes all of the features of the amended claim 1, which claim 1 is believed to be allowable for the reasons specified above. Thus if Swanson and Brownawell are combined together, the features required by the Applicant's claim 21 are not arrived at.

Accordingly, it is respectfully submitted that this application is in condition for allowance. Early and favorable action is respectfully requested.

If for any reason this **RESPONSE** is found to be **INCOMPLETE**, or if at any time it appears that a **TELEPHONE CONFERENCE** with Counsel would help advance prosecution, please telephone the undersigned or one of his associates, collect in Waltham, Massachusetts, at (781) 890-5678.

Respectfully submitted,



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